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		E HUMAYUN M/AU
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L11	255	S E3-7
L12	4776	S L1-11
L13	611	S L12 AND (VEIN OR CANNULA OR SCOFFOLD? OR RETINAL OR CATHETER?
L14	55	S L13 AND (MICROCATHETER OR VASCULAR OR ROBOT)
L15	38	DUP REM L14 (17 DUPLICATES REMOVED)

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L15 ANSWER 1 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
 ACCESSION NUMBER: 2006:48067 BIOSIS
 DOCUMENT NUMBER: PREV200600057269
 TITLE: Vitreoretinal surgery under retrobulbar block only.
 AUTHOR(S): Yoon, Y. H. [Reprint Author]; Lim, T.; **Humayun, M. S.**
 SOURCE: IOVS, (2005) Vol. 46, No. Suppl. S, pp. 5433.
 Meeting Info.: Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology. Ft Lauderdale, FL, USA. May 01 -05, 2005. Assoc Res Vis & Ophthalmol.
 CODEN: IOVSDA. ISSN: 0146-0404.
 DOCUMENT TYPE: Conference; (Meeting)
 Conference; (Meeting Poster)
 LANGUAGE: English
 ENTRY DATE: Entered STN: 4 Jan 2006
 Last Updated on STN: 4 Jan 2006

AB Purpose: The majority of vitreoretinal (VR) surgery is performed under general anesthesia or monitored anesthesia care. The purpose of this study was to demonstrate the scope of retrobulbar block only (RB) for VR surgery, to measure the acceptance of local anesthesia to patients and surgeons. Methods: Ninety patients who had undergone either 20G pars plana vitrectomy (PPV) or 25G transconjunctival sutureless vitrectomy (TSV25) were included. To determine the acceptability of RB to patients and surgeons, a clinical survey was carried out using a questionnaire and vital signs were monitored during operation. Surgical outcome was also assessed to confirm the validity of this practice pattern in clinical setting. Results: Under retrobulbar anesthesia only, 65 patients were treated with PPV and 25 with TSV25. Preoperative diagnoses included diabetic hemorrhage/RD/CSME in 49, macular pucker/hole/hemorrhage in 18, RD in 4, **vein** occlusion in 5, and others in 14 patients. In 25 patients, phacoemulsification and posterior IOL implantation was also combined. Mean operation time was 39 (range 20-60) minutes for TSV25 and 57 (30-150) minutes for PPV. Twenty-eight patients complained mild and 4 patients moderate degree of pain during surgery. Among them 29 required either topical (15) or infiltrative (14) anesthesia additionally. There was no case of intraoperative complication because of movement of the patients. Increase of systolic blood pressure by 15 mmHg or higher occurred in 11 cases, and respiratory rate by 3 or more in 7 cases. Anatomical success rate was 95% and visual improvement was achieved in 80%. Complications included a manageable retrobulbar bleeding in one case and postoperative neovascular glaucoma in 2 cases. Conclusions: We conclude that VR surgery can be safely and efficiently performed under retrobulbar block only. With the adoption of local anesthesia for TSV25, a new era of office-based VR surgery is just around the corner.

L15 ANSWER 2 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
 ACCESSION NUMBER: 2006:44138 BIOSIS
 DOCUMENT NUMBER: PREV200600053339
 TITLE: Surgical implantation of epiretinal prosthesis with spring-mounted electrodes.
 AUTHOR(S): Ameri, H. [Reprint Author]; Guven, D.; Freda, R.; Okandan, M.; Wessendorf, K.; Qiu, G.; Weiland, J.; **Humayun, M.**
 SOURCE: IOVS, (2005) Vol. 46, No. Suppl. S, pp. 1484.
 Meeting Info.: Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology. Ft Lauderdale, FL, USA. May 01 -05, 2005. Assoc Res Vis & Ophthalmol.
 CODEN: IOVSDA. ISSN: 0146-0404.
 DOCUMENT TYPE: Conference; (Meeting)

Conference; (Meeting Poster)

LANGUAGE: English

ENTRY DATE: Entered STN: 4 Jan 2006

Last Updated on STN: 4 Jan 2006

AB Purpose: To assess the feasibility of surgical implantation of epiretinal prosthesis with spring-mounted electrodes in dogs and study the histological features after implantation. Methods: The device is a silicon, square 5x5-mm array with 81 electrodes and an attached silicone cable. Electrodes are attached to the array by micro-machined springs and can move perpendicular to the array surface, a maximum of 100 μ m. Four devices were implanted in dogs: two were implanted acutely during a terminal surgery; two dogs underwent surgery for chronic implantation. All cases underwent standard pars plana vitrectomy with peeling of posterior hyaloid membrane. One of the sclerotomies was extended and the device was introduced into the vitreous cavity and fixed to the retina with a Grieshaber **retinal** tack. Results: During the acute experiments, some of the electrodes broke and it appeared nearly impossible to introduce the device into the eye without damaging the electrodes. Moreover, insertion in one animal caused some peripheral **retinal** damage. Observations of the first two acute experiments led to development of a special sleeve-shaped metal tool, for easier insertion of the array into the eye. The insertion tool was used in both dogs that underwent chronic implantation; in both cases all electrodes were intact after implantation. On postoperative day 2, ocular trauma in one dog caused intraocular hemorrhage and dislocation of the implant. In the other dog the eye was enucleated after 2 weeks. Optical Coherence Tomography (OCT) prior to enucleation showed some electrodes were not in close contact with the retina. Histology demonstrated **retinal** folds and indentation of the retina by some electrodes. Conclusions: This study demonstrated the feasibility of implanting a **retinal** prosthesis with spring-mounted electrodes, using a special insertion tool. **Retinal** indentation indicates close contact of some electrodes with the retina. Work is underway to modify the array to ensure all electrodes remain in close contact with the retina.

L15 ANSWER 3 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2006:44043 BIOSIS

DOCUMENT NUMBER: PREV200600053244

TITLE: Evaluation of effects of intraocular delivery of beta-radiation.

AUTHOR(S): Rossi, J. V. [Reprint Author]; **Fujii, G. Y.**; Colodetti, S. C. Z.; Hinton, D.; Trip, R.; Fritz, E.; Pintaske, R.; Lim, J.; **Humayun, M. S.**; de Juan, E.

SOURCE: IOVS, (2005) Vol. 46, No. Suppl. S, pp. 1386.
Meeting Info.: Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology. Ft Lauderdale, FL, USA. May 01 -05, 2005. Assoc Res Vis & Ophthalmol.
CODEN: IOVSDA. ISSN: 0146-0404.

DOCUMENT TYPE: Conference; (Meeting)
Conference; (Meeting Poster)

LANGUAGE: English

ENTRY DATE: Entered STN: 4 Jan 2006

Last Updated on STN: 4 Jan 2006

AB Purpose: To evaluate and quantify the acute effects of focal intraocular delivery of beta radiation on **retinal** and subretinal tissue over a prescribed dose range. Methods: Forty rabbits underwent pars plana vitrectomy and received controlled intraocular strontium(90) beta-radiation using a novel radiation probe. Four study groups of 10 rabbits each,

received 2 dosages in different **retinal** locations. The following dosages were evaluated: 0, 26, 51, 77, 82, 164, 246 Gy. Rabbits were followed for 3 (N=20) and 6 months (N=20). Main outcome measures included changes in the fundus appearance, fluorescein angiography (FA), electroretinography (ERG) and histology. Primary tissues of interest are the neural retina, **retinal** pigment epithelium (RPE), Bruch's membrane/choriocapillaris complex, and choroid. Results: Controlled intraocular delivery of beta-radiation was achieved in alleyes. No intra-operative or peri-operative complications were observed. No detectable change was observed on electroretinography in any of the rabbits at 3 and 6 months. No abnormalities in fundus appearance, FA, or light microscopy were observed in any animals receiving 77 Gy or less. However, in subgroups receiving 82 Gy or more, changes were observed including **retinal vascular** attenuation, myelin atrophy, **retinal** vessel obliteration, RPE atrophy, and RPE proliferation on biomicroscopy (and in color photographs). In addition, FA in these animals revealed **retinal vascular** non-perfusion, abnormal hyperfluorescence, and delayed choroidal filling. Light microscopy disclosed changes in the outer nuclear layer and subretinal space, including **retinal** gliosis, RPE proliferation, decreased pigmentation or hyperpigmentation of RPE, RPE loss, RPE atrophy and RPE hypertrophy. No progression of these acute toxic effects was observed between 3 and 6 months after radiation exposure. Conclusions: Short-term toxicity data demonstrates that the minimum threshold for acute damage with this approach is above 82 Gy. Further studies to evaluate the role of local delivery of strontium(90) beta-radiation in the treatment of AMD are warranted.

L15 ANSWER 4 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2006:44039 BIOSIS

DOCUMENT NUMBER: PREV200600053240

TITLE: Subretinal radiation treatment of occult choroidal neovascularization due to AMD.

AUTHOR(S): Lim, J. I. [Reprint Author]; deJuan, E.; Sadda, S.; Fujii, G.; Rossi, J.; Levin, L.; Walonker, A.

SOURCE: IOVS, (2005) Vol. 46, No. Suppl. S, pp. 1384.
Meeting Info.: Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology. Ft Lauderdale, FL, USA. May 01 -05, 2005. Assoc Res Vis & Ophthalmol.
CODEN: IOVSDA. ISSN: 0146-0404.

DOCUMENT TYPE: Conference; (Meeting)
Conference; (Meeting Poster)

LANGUAGE: English

ENTRY DATE: Entered STN: 4 Jan 2006

Last Updated on STN: 4 Jan 2006

AB Purpose: To determine tolerability and safety of subretinal radiation treatment for occult subfoveal CNV in AMD. Methods: In this AMD pilot study, subfoveal active CNV was treated with custom designed subretinal radiation delivery devices delivering 26 Gy over 2 to 3 minutes to CNV and not the overlying retina. Following FDA approval and informed consent, patients underwent ETDRS visual acuity (VA), slit lamp and dilated fundus examinations, OCT and fluorescein angiography. CNV lesion greatest linear dimension (GLD) was required to be \leq 5400 microns. Patients with other diseases causing visual loss or prior treatment of subfoveal CNV were ineligible. Eligible patients underwent pars plana vitrectomy, insertion of the radiation delivery device into the subretinal space overlying the CNV and an air-fluid exchange. Follow-up visits occurred at 1 day, 1 week and then monthly. Results: Ten eyes of 10 patients (63 to 88 years old) received 26 Gy subretinal radiation to CNV

from the subretinal radiation devices. A non-angled probe was used in the initial three patients; a modified angled probe was used in subsequent patients. The procedure averaged 20 minutes. Follow-up ranged from 2 to 9 months (median 3 months). VA was stable/improved in 33 % (3/9) at 1 month, 44 % (4/9) at 2 and 3 months. Compared to baseline, GLD of leakage decreased 46 % by 1 month, 64 % by 3 months and 82 % by 6 months. OCT total macular volume decreased 13 % at month 1, 19 % at month 3 and 30 % at month 6. Adverse events included subfoveal RPE tears in 2, subretinal hemorrhage in 4 and a macular hole in one eye. Three events (subretinal hemorrhage (2), macular hole) occurred in 3 eyes treated with the non-angled probe. No **retinal** detachments or endophthalmitis occurred. The angled probe modification resulted in fewer adverse events and led to further device modifications. Conclusions: The subretinal radiation device was tolerated in these AMD patients and the subfoveal CNV leakage decreased in size. Further work is indicated for assessing impact on VA of this new technology.

L15 ANSWER 5 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
 ACCESSION NUMBER: 2005:16987 BIOSIS
 DOCUMENT NUMBER: PREV200500014726
 TITLE: Macular translocation in patients with recurrent subfoveal

choroidal neovascularization after laser photocoagulation for nonsubfoveal choroidal neovascularization.

AUTHOR(S): Ng, Eugene W. M.; Fujii, Gildo Y.; Eong, Kah-Guan
 Au; Reynolds, Sandra M.; Melia, B. Michelle; Kouzis,
 Anthony C.; Humayun, Mark S.; De Juan, Eugene Jr;
 Pieramici, Dante J. [Reprint Author]

CORPORATE SOURCE: Calif Retina Consultants, 515 E Micheltorena St, Suite C,
 Santa Barbara, CA, 93103, USA

SOURCE: Ophthalmology, (October 2004) Vol. 111, No. 10, pp.
 1889-1893. print.
 ISSN: 0161-6420 (ISSN print).

DOCUMENT TYPE: Article

LANGUAGE: English

ENTRY DATE: Entered STN: 22 Dec 2004

Last Updated on STN: 22 Dec 2004

AB Purpose: To report visual outcomes and to examine surgical factors affecting outcomes in patients undergoing macular translocation for recurrent subfoveal choroidal neovascularization after laser photocoagulation for nonsubfoveal choroidal neovascularization. Design: Retrospective, noncomparative, interventional case series. Participants: A consecutive series of 31 eyes of 29 patients who underwent macular translocation for recurrent subfoveal choroidal neovascularization after laser photocoagulation for nonsubfoveal choroidal neovascularization. Intervention: Inferior macular translocation with punctate retinotomy performed by a single surgeon. Outcome Measures: Surgical and visual outcomes at 3 and 6 months after surgery and complications data are reported. Associations between surgical factors and visual outcomes were analyzed statistically. Results: Effective translocation was achieved in 77.4% of eyes. At 6 months, 54% of eyes achieved visual acuity (VA) better than 20/100, and 46% of eyes gained the equivalent of 2 Early Treatment Diabetic Retinopathy Study lines of vision. No association between size of recurrent choroidal neovascularization and visual outcome was identified. Eyes with a larger scar size experienced lower VA at 3 and 6 months, but scar size was not associated with change in VA at 3 and 6 months. Subretinal dissection during surgery to detach the macula was required in 8 of 31 eyes and was associated with a significantly increased incidence of peripheral **retinal** breaks. However, there was no difference in either VA or change in VA in eyes with and without

subretinal dissection. **Retinal** detachment (RD) occurred in 6 of 31 eyes. No significant difference in the RD rate was observed between groups with or without subretinal dissection ($P = 0.30$). Conclusion: Our pilot data suggest that macular translocation can result in favorable surgical outcomes in patients with recurrent subfoveal choroidal neovascularization after laser photocoagulation for nonsubfoveal choroidal neovascularization. Use of subretinal dissection intraoperatively in these patients does not seem to affect visual outcome adversely, but may be associated with increased risk of peripheral **retinal** breaks.
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L15 ANSWER 6 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2004:420088 BIOSIS
DOCUMENT NUMBER: PREV200400421131
TITLE: Use of rotational sutures for limited **retinal**
translocation: a new technique for superior limited macular
translocation.
AUTHOR(S): Guven, Dylek [Reprint Author]; Panzan, Carla Q.;
Humayun, Mark S.; De Juan, Eugene Jr
CORPORATE SOURCE: Doheny Eye Inst, 1355 San Pablo St, DVRC 417, Los Angeles,
CA, 90033, USA
dkguven@hotmail.com
SOURCE: American Journal of Ophthalmology, (May 2004) Vol. 137, No.
5, pp. 901-907. print.
ISSN: 0002-9394 (ISSN print).
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 3 Nov 2004
Last Updated on STN: 3 Nov 2004

AB PURPOSE: To report a modified surgical technique for **retinal**
translocation in eyes with subfoveal choroidal neovascularization.
DESIGN: Experimental animal study. METHODS: Nine pigmented rabbits were
used consecutively to apply this technique. Placement of inferotemporal
scleral imbrication sutures was followed by vitrectomy with posterior
hyaloid separation. Balanced saline solution (BSS) was injected
subretinally with a 30G needle or with a 39G hydrodissection
cannula and viscous fluid injector to detach one **retinal**
quadrant. Under low intraocular pressure, the imbrication sutures were
tied, the sclerotomy sites were closed, and intravitreal air tamponade was
injected. Rotation sutures were passed and the eye globe was rotated
approximately 90 degrees counterclockwise. The rotation sutures were
removed after 24 hours. **Retinal** photographs were taken and
fundus examination was performed on postoperative days 1, 2 and 7. The
animals were sacrificed after 7 to 10 days for postmortem macroscopic
examination. RESULTS: The entire procedure was performed in nine eyes of
nine rabbits. In eight eyes, translocation could be seen on the first
postoperative day after removal of the rotation sutures. The average
amount of translocation was 667 μm (range: 500-800 μm) in a nasal to
inferonasal direction. Vitreous hemorrhage occurred at the end of surgery
in one eye due to hypotony. Iatrogenic small **retinal** breaks
occurred in 2 eyes but did not prevent completion of the procedure. There
was only a temporary hyperemia of the eyelids and conjunctiva.
CONCLUSION: Limited **retinal** translocation using rotational
sutures provided a predictable amount of translocation in the planned
direction. This technique is expected to be useful for superior macular
translocation in humans.

L15 ANSWER 7 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
DUPLICATE 1

ACCESSION NUMBER: 2005:55136 BIOSIS
 DOCUMENT NUMBER: PREV200500056719
 TITLE: **Retinal vein** cannulation with prolonged infusion of tissue plasminogen activator (t-PA) for the treatment of experimental **retinal vein** occlusion in dogs.
 AUTHOR(S): Tameesh, Mohamed K.; Lakhanpal, Rohit R.; Fujii, Gildo Y.; Javaheri, Michael; Shelley, Terry H.; D'Anna, Sam; Barnes, Aaron C.; Margalit, Eyal; Farah, Michel; De Juan, Eugene Jr; Humayun, Mark S. [Reprint Author]
 CORPORATE SOURCE: Keck Sch MedDoheny Eye InstDept Ophthalmol, Univ So Calif, 1450 San Pablo St, Room 3600, Los Angeles, CA, 90033, USA MHumayun@dohenv.org
 SOURCE: American Journal of Ophthalmology, (November 2004) Vol. 138, No. 5, pp. 829-839. print. ISSN: 0002-9394 (ISSN print).
 DOCUMENT TYPE: Article
 LANGUAGE: English
 ENTRY DATE: Entered STN: 3 Feb 2005
 Last Updated on STN: 3 Feb 2005
 AB PURPOSE: To evaluate the feasibility, safety, and efficacy of local thrombolytic agents directly injected into occluded **retinal veins** in an experimental animal model. DESIGN: Experimental animal study. METHODS: This experimental study was performed in two phases. In phase 1, 15 enucleated porcine eyes and 8 in vivo canine eyes were used for the development of the instrumentation and surgical technique required for **retinal vein** cannulation with prolonged intravascular infusion. In phase 2 of this study, experimental branch **retinal vein** occlusion was photochemically created using an intravenous injection of rose bengal followed by diode laser photo coagulation in eight eyes of eight dogs. Four eyes were treated by **retinal vein** cannulation and an injection of tissue Plasminogen activator (t-PA) using a specifically designed microcatheter, while the remaining four eyes were untreated (control group). The total amount of t-PA injected intravenously ranged from 400 to 1000 mug, infused over a period ranging from 25 to 45 minutes with a mean pressure of 40 psi, resulting in a mean injection flow rate of 0.05 ml/min. The dogs underwent clinical examination, fluorescein angiography, and histologic examination. Main outcome measures were: Achievement of prolonged intravascular infusion of t-PA, changes in fundus appearance, fluorescein angiography, and histology. RESULTS: A microcatheter instrument and a surgical technique for **retinal vein** cannulation with prolonged intravascular infusion were developed. Cannulation and t-PA infusion for a period of at least 30 minutes was achieved in all four treated eyes with experimental branch **retinal vein** occlusion. No complications were recorded in all treated eyes. One week and 1 month postoperatively, treated eyes exhibited marked decreases in **retinal** hemorrhages, **retinal vein** dilation, and tortuosity, whereas nontreated eyes exhibited persistence of these findings. Fluorescein angiography demonstrated improved circulatory flow in treated relative to non, treated eyes. Histologic analysis confirmed the presence of thrombi in nontreated eyes only. CONCLUSIONS: **Retinal vein** cannulation with prolonged intravascular injection of t-PA is feasible and safe, and this may offer a new treatment option for **retinal vein** occlusion. Copyright 2004 by Elsevier Inc. All rights reserved.

ACCESSION NUMBER: 2004:279887 HCAPLUS
 DOCUMENT NUMBER: 141:18066
 TITLE: Vitreous levels of pigment epithelium-derived factor and **vascular** endothelial growth factor: implications for ocular angiogenesis
 AUTHOR(S): Duh, Elia J.; Yang, Hoseong S.; Haller, Julia A.; De Juan, Eugene; **Humayun, Mark S.**; Gehlbach, Peter; Melia, Michele; Pieramici, Dante; Harlan, J. B.; Campochiaro, Peter A.; Zack, Donald J.
 CORPORATE SOURCE: Department of Ophthalmology, The Johns Hopkins University School of Medicine, Baltimore, MD, 21287, USA
 SOURCE: American Journal of Ophthalmology (2004), 137(4), 668-674
 CODEN: AJOPAA; ISSN: 0002-9394
 PUBLISHER: Elsevier Science Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Pigment epithelium-derived factor (PEDF) was demonstrated to suppress ocular angiogenesis in several animal models. In this study, the authors sought to measure the levels of PEDF and **vascular** endothelial growth factor (VEGF) in the vitreous of patients with and without ocular neovascular disorders. Design: Case-control study of patients undergoing intraocular surgery for a variety of neovascular and nonneovascular conditions. Vitreous samples were collected from 65 eyes of 65 patients with no neovascular disorder (n = 24), choroidal neovascularization (n = 9), active proliferative diabetic retinopathy (n = 16), and inactive proliferative diabetic retinopathy (n = 16). The levels of VEGF and PEDF in these vitreous samples were determined by ELISA. The VEGF levels were at or below the level of detectability in the reference and choroidal neovascularization groups. The VEGF levels were significantly elevated in both the active and inactive PDR groups, and significantly higher in the active PDR group as compared with the inactive PDR group. The PEDF levels, which were present at relatively high concns. in all groups, were higher in patients with active PDR compared with the control and choroidal neovascularization groups. High levels of immunoreactive PEDF are present in the vitreous of individuals with or without ocular neovascularization, but PEDF levels are significantly higher in patients with active PDR compared with patients with choroidal neovascularization or nonneovascular **retinal** diseases. Although these results do not preclude the possibility that endogenous PEDF helps to modulate ocular neovascularization, they do not support ischemia-induced downregulation of PEDF as a mechanism for such modulation.

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 9 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
 ACCESSION NUMBER: 2005:458555 BIOSIS
 DOCUMENT NUMBER: PREV200510253023
 TITLE: Inadequate diabetic retinopathy screening among patients referred for panretinal laser photocoagulation.
 AUTHOR(S): Hayes, J. S. [Reprint Author]; **Humayun, M.**
 CORPORATE SOURCE: Doheny Eye Inst, Los Angeles, CA 90033 USA
 SOURCE: IOVS, (APR 2004) Vol. 45, No. Suppl. 2, pp. U618.
 Meeting Info.: Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology. Ft Lauderdale, FL, USA. April 24 -29, 2004. Assoc Res Vis & Ophthalmol.
 CODEN: IOVSDA. ISSN: 0146-0404.
 DOCUMENT TYPE: Conference; (Meeting)

Conference; (Meeting Poster)

LANGUAGE: English

ENTRY DATE: Entered STN: 9 Nov 2005

Last Updated on STN: 9 Nov 2005

AB Purpose: It is estimated that half of all diabetics do not undergo the recommended annual eye examination. Unfortunately, many of these patients eventually present to an ophthalmologist with visual changes from proliferative diabetic retinopathy. The goal of this study was to determine the frequency of inadequate screening and characteristics of patients treated with panretinal photocoagulation (PRP) for proliferative diabetic eye disease. Methods: Records of 128 consecutive patients who underwent PRP at Los Angeles County Hospital were reviewed. Patients with known Type I or Type II Diabetes Mellitus of any duration were included. The interval between the visit referring patient for PRP and previous dilated fundus examination was noted. Other data collected included age, sex, race, indication for PRP and visual acuity. Results: Seven patients were excluded from the study. One was newly diagnosed with diabetes based on her eye examination, 1 patient had CRVO and no diabetes and 5 had insufficient records to determine interval since last examination. All patients had high-risk PDR, severe PDR (as defined by the ETDRS) and/or rubeosis. 100 (83%) patients had exams within the previous year, 1 (0.8%) patient had an exam between 1 and 2 years and 20 (16.5%) had no exams for 2 years or more. One patient with an 8-year history of diabetes had never had an eye examination. Age, sex, race, indication for PRP and proportion of patients with severe visual loss (visual acuity less than 5/200) were similar between the groups ($p > 0.2$). Conclusions: This study shows that a significant proportion of patients requiring panretinal photocoagulation for proliferative diabetic eye disease in our community have had screening eye examinations less frequently than recommended. Identifying barriers to timely patient examinations and developing novel approaches to overcome these barriers are necessary.

L15 ANSWER 10 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2005:458449 BIOSIS

DOCUMENT NUMBER: PREV200510252917

TITLE: Evaluation of acute effects of intraocular delivery of beta-radiation.

AUTHOR(S): Fujii, G. Y. [Reprint Author]; Rossi, J. V.; Hinton, D. R.; Humayun, M. S.; Sadda, S.; Barnes, A.; McCormick, M.; Trip, R.; Faupel, L.; de Juan, E. Jr

CORPORATE SOURCE: Doheny Eye Inst, Los Angeles, CA 90033 USA

SOURCE: IOVS, (APR 2004) Vol. 45, No. Suppl. 2, pp. U584.
Meeting Info.: Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology. Ft Lauderdale, FL, USA. April 24 -29, 2004. Assoc Res Vis & Ophthalmol.
CODEN: IOVSDA. ISSN: 0146-0404.

DOCUMENT TYPE: Conference; (Meeting)
Conference; (Meeting Poster)

LANGUAGE: English

ENTRY DATE: Entered STN: 9 Nov 2005

Last Updated on STN: 9 Nov 2005

AB Purpose: To evaluate and quantify the acute effects of focal intraocular delivery of beta radiation on **retinal** and subretinal tissue over a prescribed dose range. Methods: Eighty rabbits underwent pars plana vitrectomy and received controlled intraocular strontium(90) beta-radiation using a novel radiation probe. Eight study groups of 10 rabbits each, received 2 dosages in different **retinal** locations.

The following dosages were evaluated: 0, 13, 19, 26, 32, 38, 41, 51, 62, 77, 82, 103, 123, 164, and 246 Gy. Rabbits were followed for 1 (N=40) or 2 months (N=40). Main outcome measures included changes in the fundus appearance, fluorescein angiography (FA), electroretinography (ERG) and histology. Primary tissues of interest are the neural retina, **retinal** pigment epithelium (RPE), Bruch's membrane/choriocapillaris complex, and choroid. Results: Controlled intraocular delivery of beta-radiation was achieved in alleys. No intra-operative or peri-operative complications were observed. No detectable change was observed on electroretinography in any of the rabbits at 4 and 8 weeks. No abnormalities in fundus appearance, FA, or light microscopy were observed in any animals receiving 103 Gy or less. However, in subgroups receiving 123 Gy or more, changes were observed including **retinal vascular** attenuation, myelin atrophy, **retinal** vessel obliteration, RPE atrophy, and RPE proliferation on biomicroscopy (and in color photographs). In addition, FA in these animals revealed **retinal vascular** non-perfusion, abnormal hyperfluorescence, and delayed choroidal filling. Light microscopy disclosed changes in the outer nuclear layer and subretinal space, including **retinal** gliosis, RPE proliferation, decreased pigmentation or hyperpigmentation of RPE, RPE loss, RPE atrophy and RPE hypertrophy. No progression of these acute toxic effects was observed between 4 and 8 weeks after radiation exposure. Conclusions: Short-term toxicity data demonstrates that the minimum threshold for acute damage with this approach is above 103 Gy. Further studies to evaluate the role of local delivery of strontium(90) beta-radiation in the treatment of AMD are warranted.

L15 ANSWER 11 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2005:457885 BIOSIS

DOCUMENT NUMBER: PREV200510252353

TITLE: Vitrectomyless limited sheath manipulation using 25-gauge instrumentation for complicated branch **retinal vein** occlusion.

AUTHOR(S): Lakhanpal, R. R. [Reprint Author]; Javaheri, M.; Barnes, A. C.; de Juan, E. Jr; Humayun, M. S.

CORPORATE SOURCE: Doheny Eye Inst, Doheny Retina Inst, Los Angeles, CA USA

SOURCE: IOVS, (APR 2004) Vol. 45, No. Suppl. 2, pp. U469. Meeting Info.: Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology. Ft Lauderdale, FL, USA. April 24 -29, 2004. Assoc Res Vis & Ophthalmol. CODEN: IOVSDA. ISSN: 0146-0404.

DOCUMENT TYPE: Conference; (Meeting)
Conference; (Meeting Poster)

LANGUAGE: English

ENTRY DATE: Entered STN: 9 Nov 2005

Last Updated on STN: 9 Nov 2005

AB Purpose: To evaluate the outcomes of a new technique, 25-gauge vitrectomyless limited sheath manipulation and intraoperative reperfusion visualization, for the treatment of branch **retinal vein** occlusion complicated by macular hemorrhage, macular ischemia, and/or macular edema recalcitrant to grid laser photocoagulation. Methods: A consecutive, retrospective, interventional case series of sixteen eyes of 15 patients from May 2001 to June 2003 was undertaken. All eyes underwent vitrectomyless limited sheath manipulation performed by a single surgeon (MSH) using the 25-gauge nitinol flexible-extendable blunt pick. Four eyes (25%) with angiographic evidence of extensive preoperative macular

edema and/or ischemia underwent concomitant intravitreal steroid injection. Main outcome measures included presence or absence of intraoperative reperfusion visualization, pre- and postoperative visual acuity, macular thickness as measured by optical coherence tomography, intraocular pressure, and lens status. Results: Intraoperative **vascular** reperfusion was visualized in all eyes. Mean visual acuity improved from 20/200 (Log MAR 1.03 +/- 0.32) preoperatively to 20/60 (0.50 +/- 0.28) ($p < 0.0001$) at final visit. Fifteen of 16 eyes (94%) experienced visual improvement. Thirteen of 16 eyes (81%) experienced two or more lines of visual improvement. Eight eyes (50%) exhibited final acuity of 20/50 or better. Mean macular thickness improved from 419.6 +/- 95.2 μm to 180.1 +/- 42.4 μm ($p < 0.0001$) at final visit. No statistically significant difference was noted in cataract progression or intraocular pressure between the steroid and non-steroid groups. Mean follow-up was 43.4 +/- 20.5 weeks. All patients were followed for at least twelve weeks. Conclusions: Vitrectomyless limited sheath manipulation, with or without intravitreal steroids, may achieve comparable outcomes to arteriovenous adventitial sheathotomy for complicated branch **retinal vein** occlusion. A prospective, randomized trial is warranted.

L15 ANSWER 12 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2005:456146 BIOSIS
 DOCUMENT NUMBER: PREV200510250614
 TITLE: Automated assessment of **retinal** image quality.
 AUTHOR(S): Sadda, S. R. [Reprint Author]; Updike, P.; Wong, A. K.; de Juan, E.; **Humayun, M. S.**; Walsh, A. C.
 CORPORATE SOURCE: USC, Doheny Eye Inst, Los Angeles, CA USA
 SOURCE: IOVS, (APR 2004) Vol. 45, No. Suppl. 2, pp. U12.
 Meeting Info.: Annual Meeting of the Association-for-Research-in-Vision-and-Ophthalmology. Ft Lauderdale, FL, USA. April 24 -29, 2004. Assoc Res Vis & Ophthalmol.
 CODEN: IOVSDA. ISSN: 0146-0404.
 DOCUMENT TYPE: Conference; (Meeting)
 Conference; (Meeting Poster)
 LANGUAGE: English
 ENTRY DATE: Entered STN: 9 Nov 2005
 Last Updated on STN: 9 Nov 2005

AB Purpose: Advances in digital imaging and computing have made automated quantitative analysis of **retinal** images feasible. The accuracy of image interpretation, however, depends in part on the quality of the images chosen for assessment. This study evaluates the performance of a prototype system to classify images according to multiple separate parameters of image quality. Methods: 530 color and fluorescein angiogram frames were graded (on a numeric scale of -2 to +2) by 3 examiners in 5 descriptive categories: exposure, lighting irregularity, contrast, focus, and artifacts. Images were randomly split into two groups (A and B) of equal size. Image parameters were calculated for each image including intensity statistics, first derivative estimations, and an approximation of the illumination image by a Gaussian blur with a kernel size equal to half of the image height. Pearson correlation coefficients were calculated between group A image parameters and subjective assessments of each descriptive category. A linear regression equation was calculated for the statistic in each category with the highest correlation and these regression lines were used to predict descriptive ratings for group B. Predicted values were compared to the subjective ratings for group B images using correlation coefficients. Results: The mean pixel intensity of the red channel correlated most strongly with exposure, the Standard Dev. of

the illumination image intensity correlated best with lighting irregularity and the range (2 Standard Dev.) of the green channel intensity correlated with contrast (Table). Each of these parameters predicted group B ratings well. No parameters were found that predicted ratings in the focus or artifacts categories. [GRAPHICS] Conclusions: Software algorithms can accurately assess several parameters which reflect **retinal** image quality. This ability, may allow rapid automatic selection of optimal images for live feedback to photographers as well as preparation for quantitative analysis. These algorithms may be of value in systems being deployed for the automated screening of **retinal** disease (e.g. diabetic retinopathy) or for the quantification of complex diseases such as exudative AMD.

L15 ANSWER 13 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2003:511383 BIOSIS
DOCUMENT NUMBER: PREV200300514379
TITLE: Bilateral neuroretinopathy with multiple **retinal** arterial aneurysms.
AUTHOR(S): See, Robert F.; **Humayun, Mark**; Rao, Narsing A.
[Reprint Author]
CORPORATE SOURCE: Department of Ophthalmology, Keck School of Medicine, Doheny Eye Institute, University of Southern California, 1450 San Pablo St, DVRC 211, Los Angeles, CA, 90033, USA
nrao@usc.edu
SOURCE: Archives of Ophthalmology, (August 2003) Vol. 121, No. 8, pp. 1206-1207. print.
ISSN: 0003-9950 (ISSN print).
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 5 Nov 2003
Last Updated on STN: 5 Nov 2003

L15 ANSWER 14 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2004:172055 BIOSIS
DOCUMENT NUMBER: PREV200400172880
TITLE: Characteristics of visual loss by scanning laser ophthalmoscope microperimetry in eyes with subfoveal choroidal neovascularization secondary to age-related macular degeneration.
AUTHOR(S): **Fujii, Gildo Y.**; de Juan, Eugene Jr. [Reprint Author]; **Humayun, Mark S.**; Sunness, Janet S.; Chang, Tom S.; Rossi, Juliana V.
CORPORATE SOURCE: Keck School of Medicine, Doheny Eye Institute, University of Southern California, 1450 San Pablo St, Room 3620, Los Angeles, CA, 90033, USA
dejuan@usc.edu
SOURCE: American Journal of Ophthalmology, (December 2003) Vol. 136, No. 6, pp. 1067-1078. print.
ISSN: 0002-9394 (ISSN print).
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 31 Mar 2004
Last Updated on STN: 31 Mar 2004
AB PURPOSE: To evaluate the effects of subfoveal choroidal neovascularization secondary to age-related macular degeneration on functional parameters obtained by scanning laser ophthalmoscope microperimetry. DESIGN: Retrospective observational case series and cross-sectional study.

METHODS: At the Doheny Retina Institute and Wilmer Eye Institute a consecutive series of 179 eyes of 175 patients with subfoveal choroidal neovascularization secondary to age-related macular degeneration was studied. The onset of visual symptoms, best-corrected visual acuity, fluorescein angiography, evaluation of fundus microperimetry and fixation pattern using the Roden-stock scanning laser ophthalmoscope were obtained for each patient. The main outcome measures were central **retinal** sensitivity and fixation pattern (fixation location and fixation stability) in eyes with subfoveal choroidal neovascularization and their relationship to the length of disease, type and characteristics of choroidal neovascularization, and visual acuity. **RESULTS:** Of 179 eyes, 135 (75%) had central fixation, 27 (15%) had poor central fixation, and 17 (9%) had predominantly eccentric fixation. Seventy-six eyes (42%) had stable fixation, 70 eyes (39%) had relatively unstable fixation, and 33 eyes (18%) had unstable fixation. In 50 eyes (28%) a dense central scotoma was noted. Eighty-nine of 100 eyes (89%) with length of symptoms of less than 3 months had predominantly central fixation and 58 (58%) had stable fixation; 14 of 34 eyes (41%) with length of symptoms of more than 6 months had predominantly central fixation, and 5 eyes (15%) had stable fixation. In 15 eyes of patients who elected not to receive treatment, successive scanning laser ophthalmoscope micro-perimetry were obtained over time (follow-up of 18 months after onset of symptoms). Three months or less after the onset of symptoms, 13 eyes (87.7%) had predominantly central fixation and 9 eyes (60%) had stable fixation. More than 3 months and 6 months or less after the onset of symptoms, 10 eyes (66.7%) had predominantly central fixation and 7 eyes (46.7%) had stable fixation. This trend was further demonstrated in eyes more than 6 months after the onset of symptoms. **CONCLUSIONS:** We conclude that the sequence of events leading to visual function deterioration appears to involve an initial mild decrease in central **retinal** sensitivity and visual acuity followed by progressive fixation instability and, ultimately, development of an absolute central scotoma with totally eccentric fixation. Increased length of disease is associated with worse fixation pattern and **retinal** sensitivity deterioration as assessed by scanning laser ophthalmoscope microperimetry. A better understanding of the characteristics of visual loss assessed by fixation pattern evaluation and microperimetry in age-related macular degeneration may help optimize timing, patient selection, and treatment options in eyes with this condition.

L15 ANSWER 15 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
 ACCESSION NUMBER: 2003:289607 BIOSIS
 DOCUMENT NUMBER: PREV200300289607
 TITLE: Angiographic characteristics in patients undergoing macular translocation for subfoveal choroidal neovascularization secondary to age-related macular degeneration.
 AUTHOR(S): Kent, David L.; Fujii, Gildo Y.; Pieramici, Dante J.; Reynolds, Sandra M.; Melia, Michele; Rossi, Juliana V.; Humayun, Mark S.; Caffey, Sean; de Juan, Eugene [Reprint Author]
 CORPORATE SOURCE: Doheny Retina Institute/Doheny Eye Institute, 1450 San Pablo Street, DEI 3600, Los Angeles, CA, 90033, USA dejuan@usc.edu
 SOURCE: Retina, (April 2003) Vol. 23, No. 2, pp. 152-158. print. ISSN: 0275-004X.
 DOCUMENT TYPE: Article
 LANGUAGE: English
 ENTRY DATE: Entered STN: 19 Jun 2003

Last Updated on STN: 19 Jun 2003

AB Purpose: To review in a standardized fashion pre- and postoperative fluorescein angiographic characteristics in patients undergoing limited macular translocation (LMT) with scleral imbrication to treat subfoveal choroidal neovascularization (SFCNV) secondary to age-related macular degeneration (AMD). The current study was undertaken to assess any potential effects of the translocation procedure on altering the angiographic characteristics of SFCNV before laser photocoagulation. Methods: A consecutive series of patients undergoing LMT for AMD was identified retrospectively. The pre- and postoperative fluorescein angiograms were reviewed in a masked fashion. Angiographic characteristics evaluated included pre- and postoperative lesion components, stability of lesion, and the amount of **retinal** translocation obtained. Results: Eighty-eight patients (90 eyes) had angiograms of adequate quality to permit evaluation. Time between the preoperative and the prelaser angiogram ranged from 2 to 84 days (median 7.5 days). Neovascular complexes remained unchanged or decreased in size in 79% of patients. There was no statistically significant difference in lesion size between the pre- and postoperative periods ($P=0.34$). **Retinal** movement ranged from 160 μm to 3,320 μm (median 960 μm), with 61% of cases undergoing effective translocation (i.e., the fovea was moved away from the neovascular complex). None of the lesion components or demographic factors evaluated affected the amount of translocation obtained. Larger lesions were more likely to remain subfoveal following translocation ($P=0.004$). Conclusion: The size and lesion characteristics appear relatively stable following translocation. Amount of **retinal** movement is not associated with angiographic lesion characteristics. Only size was associated with achievement of desired translocation in the final model, with large lesions being less likely to achieve desired translocation. In our study group, the amount of **retinal** translocation was variable with 61% of cases undergoing effective translocation.

L15 ANSWER 16 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2003:514259 BIOSIS
 DOCUMENT NUMBER: PREV200300511410
 TITLE: Evaluation of 25-gauge Transconjunctival Standard Vitrectomy (TSV) on previously non-operated eyes.
 AUTHOR(S): Laxhanpal, R. R. [Reprint Author]; de Juan, E. Jr. [Reprint Author]; Humayun, M. S. [Reprint Author]; Lim, J. I. [Reprint Author]; Chang, T. S. [Reprint Author]; Chong, L. P. [Reprint Author]; Fujii, G. Y. [Reprint Author]; Barnes, A. [Reprint Author]; Rossi, J. V. [Reprint Author]
 CORPORATE SOURCE: Doheny Retina Institute, Keck School of Medicine, University of Southern California, Los Angeles, CA, USA
 SOURCE: ARVO Annual Meeting Abstract Search and Program Planner, (2003) Vol. 2003, pp. Abstract No. 2025. cd-rom. Meeting Info.: Annual Meeting of the Association for Research in Vision and Ophthalmology. Fort Lauderdale, FL, USA. May 04-08, 2003. Association for Research in Vision and Ophthalmology.
 DOCUMENT TYPE: Conference; (Meeting)
 Conference; Abstract; (Meeting Abstract)
 Conference; (Meeting Poster)
 LANGUAGE: English
 ENTRY DATE: Entered STN: 5 Nov 2003
 Last Updated on STN: 5 Nov 2003

AB Purpose: To evaluate 25-gauge Transconjunctival standard Vitrectomy (25-G TSV) for vitreoretinal procedures on non-operated eyes. Methods: Retrospective review of fifty-five eyes of fifty-five patients who underwent 25-G TSV by five surgeons (MSH, EdeJ, TSC, JIL, LPC) at the Doheny Retina Institute. Diagnoses included epiretinal membrane (19), tractional **retinal** detachment (10), non-clearing vitreous hemorrhage (6), branch **retinal vein** occlusion (8), rhegmatogenous **retinal** detachment (6), submacular pharmacological injection (4), and macular hole (2). Main outcome measures were pre- and postoperative visual acuity (VA), keratometry (K), intraocular pressure (IOP); intraoperative surgical time, infusion volume, sclerotomy closure, complications; conversion to 20-gauge (20-G) sclerotomy; postoperative inflammation, presence of bleb or choroidal detachment. Results: Twenty-six males and twenty-nine females with a median age of 58 (range, 29 to 75) were followed for a median of 21 weeks (range, 1 to 35). All underwent monitored, local anesthesia. Preoperative VA ranged from 20/50 to HM (median = 20/100) and postoperative VA ranged from 20/20 to 20/200 (median = 20/40). Preoperative K was 84.5 +/- 4.5 D and postoperative K was 84.5 +/- 4.0 D. Mean preoperative IOP was 18 mmHg (range, 12 to 22) and mean postoperative IOP was 14 mmHg (range, 6-24). Mean total surgical time was 38 minutes (range, 7.25 to 81.25). Mean opening time was 2.5 minutes (range, 1.5 to 5.0); mean vitrectomy time was 33.5 minutes (range, 5.0 to 65.0); mean closing time was 2.5 minutes (range, 1.0 to 6.0). Median infusion volume was 100 milliliter (range, 50 to 225). Eight eyes (16.7%) required a sclerotomy suture. Three eyes (5.4%) required conversion to 20-G. Sixteen eyes (29%) presented on day one with blebs; two remained at day seven. All resolved by day thirty. Fifteen eyes had shallow choroidal detachments; six persisted at day seven. All resolved by day thirty. Four-fifths of eyes revealed zero inflammation by day thirty. Two patients developed postoperative **retinal** detachments that were successfully reattached. One patient developed culture-negative endophthalmitis successfully treated by 20-G vitrectomy and intravitreal antibiotics. Conclusions: 25-G TSV decreases inflammation, surgical time, anesthesia risks and causes minimal astigmatic corneal change, resulting in faster postoperative recovery. A multicenter, prospective study is warranted to further examine this new surgical option.

L15 ANSWER 17 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2002:575360 BIOSIS
DOCUMENT NUMBER: PREV200200575360
TITLE: Initial experience using the Transconjunctival Sutureless Vitrectomy System for vitreoretinal surgery.
AUTHOR(S): **Fujii, Gildo Y.**; de Juan, Eugene, Jr. [Reprint author]; **Humayun, Mark S.**; Chang, Tom S.; Pieramici, Dante J.; **Barnes, Aaron**; Kent, David
CORPORATE SOURCE: Keck School of Medicine, Doheny Eye Institute, University of Southern California, 1450 San Pablo Street, Room 3620, Los Angeles, CA, 90033, USA
SOURCE: Ophthalmology, (October, 2002) Vol. 109, No. 10, pp. 1814-1820. print.
CODEN: OPHTDG. ISSN: 0161-6420.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 7 Nov 2002
Last Updated on STN: 7 Nov 2002

AB Objective: To describe the initial experience and to evaluate the safety and feasibility of using the 25-gauge Transconjunctival Sutureless

Vitreotomy System (TSV) for a variety of vitreoretinal procedures. Design: Retrospective review of a consecutive interventional case series. Participants: Thirty-five eyes of 33 patients, including cases of idiopathic epiretinal membrane (12 cases), **retinal** detachment (6 cases), macular hole (5 cases), branch **retinal vein** occlusion (4 cases), retinopathy of prematurity (4 cases), persistent diabetic macular edema (1 case), diabetic vitreous hemorrhage (1 case), retained lens material after cataract extraction (1 case), and Norrie disease (1 case). Intervention: All patients underwent surgery using the 25-gauge TSV. Main Outcome Measures: Intraocular pressure, visual acuity, and postoperative complications. Results: The median preoperative intraocular pressure was 16 mmHg (range, 10-21 mmHg), whereas the median intraocular pressure on the first postoperative day was 12 mmHg (range, 6-28 mmHg). The median intraocular pressure at 1 week and 1 month were both 16 mmHg (range, 10-30 mmHg). Overall, the median preoperative visual acuity was 20/100 (range, 20/30 to hand motions), and the median postoperative visual acuity after a mean follow-up of 14 weeks (range, 1-60 weeks) was 20/60 (range, 20/20-20/150). One eye developed a postoperative **retinal** detachment. Conclusions: The 25-gauge TSV seems to be practical and safe for a variety of vitreoretinal procedures. The concept of transconjunctival surgery has the potential to increase the efficiency of a variety of vitreoretinal surgeries and possibly hasten the postoperative recovery and outcomes in several conditions by simplifying the surgical procedure; minimizing surgically induced trauma; and decreasing the convalescence period, the operating time, and the postoperative inflammatory response.

L15 ANSWER 18 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2002:575358 BIOSIS
 DOCUMENT NUMBER: PREV200200575358
 TITLE: A new 25-gauge instrument system for transconjunctival sutureless vitrectomy surgery.
 AUTHOR(S): Fujii, Gildo Y.; de Juan, Eugene, Jr. [Reprint author]; Humayun, Mark S.; Pieramici, Dante J.; Chang, Tom S.; Ng, Eugene; Barnes, Aaron; Wu, Sue Lynn; Sommerville, Drew N.
 CORPORATE SOURCE: Keck School of Medicine, Doheny Eye Institute, University of Southern California, 1450 San Pablo Street, Room 3620, Los Angeles, CA, 90033, USA
 SOURCE: Ophthalmology, (October, 2002) Vol. 109, No. 10, pp. 1807-1812. print.
 CODEN: OPHTDG. ISSN: 0161-6420.
 DOCUMENT TYPE: Article
 LANGUAGE: English
 ENTRY DATE: Entered STN: 7 Nov 2002
 Last Updated on STN: 7 Nov 2002

AB Objectives: To introduce and evaluate the infusion and aspiration rates and operative times of the 25-gauge transconjunctival sutureless vitrectomy system (TSV) Design: In vitro experimental and comparative interventional study. Participants and Controls: Twenty eyes of 20 patients underwent a variety of vitreoretinal procedures using the 25-gauge TSV, including idiopathic epiretinal membrane (n=10), macular hole (n=4), rhegmatogenous **retinal** detachment (n=3), branch **retinal vein** occlusion (n=2), diabetic vitreous hemorrhage (n=1), and 20 cases similar in diagnosis and severity were matched to provide comparison between duration of individual portions of the surgical procedures with the existing 20-gauge vitrectomy system. Methods: Description of the 25-gauge TSV is provided; infusion and

aspiration rates of the 25-gauge and standard 20-gauge vitrectomy system were measured in vitro using balanced saline solution and porcine vitreous for several levels of aspirating power and bottle height, and operating times of individual portions of surgical procedures were measured for the 25-gauge and 20-gauge vitrectomy system. Main Outcome Measures: Infusion, aspiration rates, and operative times of the 20-gauge and 25-gauge vitrectomy system. Results: Infusion and aspiration rates of the 25-gauge TSV system were reduced by an average of 6.9 and 6.6 times, respectively, compared with the 20-gauge system when balanced saline solution was used. The average flow rate of the Storz 25-gauge cutter (at 500 mmHg, 1500 cuts per minute (cpm)) was 40% greater than that of the 20-gauge pneumatic cutter (at 250 mmHg, 750 cpm) but about 2.3 times less than the 20-gauge high-speed cutter (at 250 mmHg, 1500 cpm). Mean total operative time was significantly greater for the 20-gauge high-speed cutter (26 minutes, 7 seconds) than for the 25-gauge vitrectomy system (17 minutes, 17 seconds) ($P=0.011$). Conclusions: Although the infusion and aspiration rates of the 25-gauge instruments are lower than those for the 20-gauge high-speed vitrectomy system, the use of 25-gauge TVS may effectively reduce operative times of select cases that do not require the full capability of conventional vitrectomy.

L15 ANSWER 19 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2003:165119 BIOSIS

DOCUMENT NUMBER: PREV200300165119

TITLE: 25 Gauge Transconjunctival Sutureless Vitrectomy (TSV)
System: Initial Clinical Experience.

AUTHOR(S): **Fujii, G. Y.** [Reprint Author]; de Juan, E. Jr. [Reprint Author]; **Humayun, M. S.** [Reprint Author]; Chang, T. S. [Reprint Author]; **Barnes, A.** [Reprint Author]

CORPORATE SOURCE: Doheny Retina Institute, Doheny Eye Institute, Los Angeles, CA, USA

SOURCE: ARVO Annual Meeting Abstract Search and Program Planner, (2002) Vol. 2002, pp. Abstract No. 3537. cd-rom. Meeting Info.: Annual Meeting of the Association For Research in Vision and Ophthalmology. Fort Lauderdale, Florida, USA. May 05-10, 2002.

DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)

LANGUAGE: English

ENTRY DATE: Entered STN: 2 Apr 2003

Last Updated on STN: 2 Apr 2003

AB Purpose: To introduce, evaluate the infusion and aspiration rates, and describe the initial experience of the 25-gauge transconjunctival sutureless vitrectomy system (TSV). Methods: Design: In vitro experimental and review of a consecutive interventional case series. Infusion and aspiration rates of the 25-gauge and standard 20-gauge vitrectomy system were measured in vitro using balanced saline solution and porcine vitreous for several levels of aspirating power and bottle height. Participants: Thirty-five eyes of thirty-three patients, including cases of idiopathic epiretinal membrane (12 cases), **retinal** detachment (6 cases), macular hole (5 cases), branch **retinal vein** occlusion (4 cases), retinopathy of prematurity (4 cases), persistent diabetic macular edema (1 case), diabetic vitreous hemorrhage (1 case), retained lens material after cataract extraction (1), Norrie disease (1 case). Intervention: All patients underwent surgery using the TSV system. Main Outcome Measures: infusion, aspiration rates of the 20-gauge and 25-gauge vitrectomy system;

early and late postoperative intraocular pressure; postoperative visual acuity; and occurrence of complications. Results: The average flow rate of the Storz 25 gauge cutter (at 500 mmHg, 1500 CPM) was 40% greater than that of the 20 gauge pneumatic cutter (at 250 mmHg, 750 CPM), but about 2.3 times lower than the 20 gauge high speed cutter (at 250 mmHg, 1500 CPM). All surgical procedures were effectively performed using the TSV. The median preoperative intraocular pressure was 16 mmHg (range, 10 to 21 mmHg) while the median intraocular pressure of the first postoperative day was 12 mmHg (range, 6 to 28 mmHg). The median intraocular pressure at 1 week and 1 month were both 16 mmHg (range, 10 to 30 mmHg). Overall, the median preoperative visual acuity was 20/100 (range, 20/30 to hand motions) and the median postoperative visual acuity after a mean follow-up of 14 weeks (range, 1 to 60 weeks) was 20/60 (range, 20/20 to 20/150). One eye developed a postoperative **retinal** detachment. Conclusion: The 25-gauge TSV appears to be practical and safe for a variety of vitreoretinal procedures. The concept of transconjunctival and minimally invasive surgery has the potential to increase efficiency of a variety of vitreo-**retinal** surgeries and possibly hasten the postoperative recovery and outcomes in several conditions by simplifying the surgical procedure, minimizing surgically induced trauma, decreasing the convalescence period, the operating time and the postoperative inflammatory response.

L15 ANSWER 20 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2003:143595 BIOSIS

DOCUMENT NUMBER: PREV200300143595

TITLE: **Retinal Vein** Cannulation with Prolonged Infusion of Tissue Plasminogen Activator (t-PA) for the Treatment of Experimental **Retinal Vein** Occlusion in Dogs.

AUTHOR(S): Tameesh, M. K. [Reprint Author]; **Fujii, G. Y.** [Reprint Author]; **Humayun, M. S.** [Reprint Author]; **Shelley, T.** [Reprint Author]; D'Anna, S. [Reprint Author]; **Barnes, A.** [Reprint Author]; Margalit, E. [Reprint Author]; de Juan, E. [Reprint Author]
CORPORATE SOURCE: Doheny Retina Institute, Doheny Eye Institute, Los Angeles, CA, USA

SOURCE: ARVO Annual Meeting Abstract Search and Program Planner, (2002) Vol. 2002, pp. Abstract No. 1874. cd-rom. Meeting Info.: Annual Meeting of the Association For Research in Vision and Ophthalmology. Fort Lauderdale, Florida, USA. May 05-10, 2002.

DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)

LANGUAGE: English

ENTRY DATE: Entered STN: 19 Mar 2003

Last Updated on STN: 19 Mar 2003

AB Purpose: To evaluate the feasibility, safety and efficacy of local thrombolytic agents directly injected into the occluded **retinal vein** in an experimental model of **retinal vein** occlusion. Methods: Experimental branch **retinal vein** occlusion was created photo-chemically using intravenous injection of rose bengal followed by diode laser photocoagulation in 6 eyes of 6 dogs. Three eyes were treated by **retinal vein** cannulation and injection of t-PA using a specifically designed microcatheter and the remaining 3 eyes were left as an untreated control group. The total amount of t-PA injected intravenously was 1 cc (1 mg/cc) using an average pressure of 40 psi resulting in an average injected flow rate of 0.05

cc/min. Evaluation was performed by clinical examination, fluorescein angiography and histological examination. Main outcome measures: achievement of prolonged intravascular infusion of t-PA, changes in the fundus appearance, fluorescein angiography and histology. Results: Cannulation with subsequent infusion of t-PA for a period of at least 30 minutes was achieved in all-3 treated eyes without any complications observed in the follow-up period. One week and one month postoperatively, marked decreases in **retinal** hemorrhage, **retinal veins** dilatation and tortuosity were noted in all treated eyes. All non-treated eyes presented with persistent **retinal** hemorrhage, **vascular** dilation and tortuosity within the same follow-up period. Histologic analysis confirmed the presence of thrombi in non-treated eyes while no thrombi was observed in t-PA treated eyes. Fluorescein angiography demonstrated improved circulatory flow in treated eyes. Conclusion: **Retinal vein** cannulation with prolonged intravascular injection of t-PA is feasible and safe. This surgical technique may offer a new treatment option for patients with **retinal vein** occlusion.

L15 ANSWER 21 OF 38 MEDLINE on STN DUPLICATE 3
 ACCESSION NUMBER: 2001216268 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 11241087
 TITLE: Transplantation of the en bloc **vascular** system for coronary revascularization.
 AUTHOR: Matsuura A; Yasuura K; Yoshida K; Oshima H; Tomari S; Ishida H; Mori S; **Fujii G**; Iwata K
 CORPORATE SOURCE: Division of Cardiovascular Surgery, Cardiovascular Center, Aichi Prefectural Owari Hospital, Ichinomiya, Japan.
 SOURCE: The Journal of thoracic and cardiovascular surgery, (2001 Mar) Vol. 121, No. 3, pp. 520-5.
 Journal code: 0376343. ISSN: 0022-5223.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
 ENTRY MONTH: 200104
 ENTRY DATE: Entered STN: 20010425
 Last Updated on STN: 20010425
 Entered Medline: 20010419
 AB OBJECTIVES: Use of the free gastroepiploic artery graft for coronary revascularization has not been very popular because of its inclination toward vasospasm. We hypothesized that the cause of free gastroepiploic artery spasm was the graft damage caused by an interruption of venous drainage from the graft. To solve this problem, we developed a new method of free gastroepiploic artery grafting. METHODS: From January 1997 to October 1999, 33 patients underwent coronary artery bypass grafting with the free gastroepiploic artery according to our new method. The gastroepiploic artery graft was harvested en bloc with its satellite **veins**. The gastroepiploic **vein** was anastomosed to the right atrial appendage for venous drainage simultaneously with the gastroepiploic artery being grafted in the aortocoronary position. RESULTS: A total of 96 distal anastomoses were performed, including 33 free gastroepiploic artery grafts according to our method, 33 in situ left internal thoracic artery grafts, 26 saphenous **vein** grafts, and 4 radial artery grafts. Neither operative nor hospital death occurred. Early postoperative angiography revealed that all of the 33 free gastroepiploic artery grafts performed with our method were patent without spasm, and flow competition occurred only in 2 of those grafts. On late angiography, all 15 free gastroepiploic artery grafts were patent without

spasm. CONCLUSIONS: The free gastroepiploic artery grafting with venous drainage technique we developed can prevent graft spasm, leading to improved patency rate.

L15 ANSWER 22 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
 ACCESSION NUMBER: 2001:282222 BIOSIS
 DOCUMENT NUMBER: PREV200100282222
 TITLE: Combined phacoemulsification, IOL implantation, and pars plana vitrectomy to treat eyes with coexisting cataract and vitreoretinal pathology.
 AUTHOR(S): Haller, J. A. [Reprint author]; Thomsen, R. [Reprint author]; **deJuan, E., Jr.** [Reprint author]; Campochiaro, P. A. [Reprint author]; Stark, W. J. [Reprint author]; Gottsch, J. D. [Reprint author]
 CORPORATE SOURCE: Ophthalmology, Johns Hopkins Hosp/Wilmer Inst, Baltimore, MD, USA
 SOURCE: IOVS, (March 15, 2001) Vol. 42, No. 4, pp. S103. print. Meeting Info.: Annual Meeting of the Association for Research in Vision and Ophthalmology. Fort Lauderdale, Florida, USA. April 29-May 04, 2001.
 DOCUMENT TYPE: Conference; (Meeting)
 Conference; Abstract; (Meeting Abstract)
 LANGUAGE: English
 ENTRY DATE: Entered STN: 13 Jun 2001
 Last Updated on STN: 19 Feb 2002

L15 ANSWER 23 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
 ACCESSION NUMBER: 2001:95891 BIOSIS
 DOCUMENT NUMBER: PREV200100095891
 TITLE: Initial experience of inferior limited macular translocation for subfoveal choroidal neovascularization resulting from causes other than age-related macular degeneration.
 AUTHOR(S): **Fujii, Gildo Y.; Humayun, Mark S.;** Pieramici, Dante J.; Schachar, Andrew P.; Eong, Kah-Guan Au; de Juan, Eugene, Jr. [Reprint author]
 CORPORATE SOURCE: Wilmer Ophthalmological Institute, Johns Hopkins University School of Medicine, 600 North Wolfe St, Maumenee Building (Room 721), Baltimore, MD, 21287-9277, USA
 edejuan@jhmi.edu
 SOURCE: American Journal of Ophthalmology, (January, 2001) Vol. 131, No. 1, pp. 90-100. print.
 CODEN: AJOPAA. ISSN: 0002-9394.
 DOCUMENT TYPE: Article
 LANGUAGE: English
 ENTRY DATE: Entered STN: 21 Feb 2001
 Last Updated on STN: 15 Feb 2002

AB PURPOSE: To report our initial experience of inferior limited macular translocation in patients with subfoveal choroidal neovascularization resulting from causes other than age-related macular degeneration.
 METHODS: We conducted a retrospective study of 23 eyes of 22 patients with choroidal neovascularization involving the foveal center secondary to pathologic myopia (11 eyes), ocular histoplasmosis syndrome (four eyes), angioid streaks (four eyes), idiopathic neovascularization (three eyes), and multifocal choroiditis (one eye), in which the fovea was moved inferiorly by means of limited macular translocation surgery. The mean preoperative best-corrected visual acuity was 20/150, and in five of 23

eyes (21.7%) the visual acuity was 20/80 or better. The major outcome measures were preoperative and postoperative visual acuity, postoperative foveal displacement, and complications related to the surgery. RESULTS: The mean postoperative follow-up was 10.82 months (range, 6 to 18 months). Postoperative best-corrected visual acuity improved by 2 or more Snellen lines of visual acuity in 11 of 23 eyes (47.82%), remained within 1 line in seven of 23 eyes (30.43%), and worsened 2 or more lines of vision in five of 23 eyes (21.74%). The mean postoperative best-corrected visual acuity was 20/100, and in 12 of the 23 eyes (52.17%) the visual acuity achieved was 20/80 or better. **Retinal** detachment was the most frequent complication and occurred in six eyes (26%). CONCLUSIONS: Our initial experience with limited macular translocation shows that this treatment modality offers the potential to improve visual function in some eyes with subfoveal choroidal neovascularization secondary to myopia, ocular histoplasmosis syndrome, angioid streaks, idiopathic neovascularization, and multifocal choroiditis. Although longer and more complete follow-up is needed, the results of this initial series warrant further studies to define the precise role of macular translocation in the management of these conditions.

L15 ANSWER 24 OF 38 MEDLINE on STN DUPLICATE 4
 ACCESSION NUMBER: 1999258942 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 10328390
 TITLE: Surgical management of subfoveal neovascularization in children.
 AUTHOR: Sears J; Capone A Jr; Aaberg T Sr; Lewis H; Grossniklaus H; Sternberg P Jr; **DeJuan E**
 CORPORATE SOURCE: Cleveland Clinic Eye Institute, The Cleveland Foundation, Ohio, USA.
 SOURCE: Ophthalmology, (1999 May) Vol. 106, No. 5, pp. 920-4. Journal code: 7802443. ISSN: 0161-6420.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 199905
 ENTRY DATE: Entered STN: 19990607
 Last Updated on STN: 19990607
 Entered Medline: 19990521
 AB OBJECTIVE: To report the authors' clinical experience with submacular surgery for subfoveal membranes in children and to evaluate the histopathologic findings of membranes in children with various etiologies of choroidal neovascularization. DESIGN: Retrospective, noncomparative, interventional case series. PARTICIPANTS: Twelve eyes of 12 consecutive children with subfoveal choroidal neovascularization treated by vitrectomy and excision of the choroidal neovascular complex. INTERVENTION: Vitrectomy, excision of the choroidal neovascular complex, and air-fluid exchange. MAIN OUTCOME MEASURES: Visual acuity and recurrence of choroidal neovascular membrane. RESULTS: Preoperative visual acuities ranged from 20/60 to 20/800 (median, 20/300). Postoperative visual acuities ranged from 20/25 to 20/400 (median, 20/80) after an average follow-up of 20 months (range, 7-62 months). Ten of 12 eyes improved from immediate preoperative visual acuity, and four eyes developed recurrence of neovascular membranes over a mean follow-up of 18 months. Histopathologic examination of six excised membranes showed that the most common components of the membranes were **retinal** pigment epithelium, fibrocytes, **vascular** endothelium, and collagen. CONCLUSION: Selected eyes of children with subfoveal neovascular membranes and no evidence of membrane regression may benefit from submacular

surgery. The histopathologic findings were similar to adult choroidal neovascularization not associated with age-related macular degeneration.

L15 ANSWER 25 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1999:189959 BIOSIS
DOCUMENT NUMBER: PREV199900189959
TITLE: Human diabetic neovascular membranes contain high levels of urokinase and metalloproteinase enzymes.
AUTHOR(S): Das, Arup [Reprint author]; McGuire, Paul G.; Eriqat, Cheryl; Ober, Richard R.; **DeJuan, Eugene, Jr.**; Williams, George A.; McLamore, Angela; Biswas, Jyoti; Johnson, David W.
CORPORATE SOURCE: Division of Ophthalmology, University of New Mexico School of Medicine, 2211 Lomas Boulevard, NE, Albuquerque, NM, 87131, USA
SOURCE: IOVS, (March, 1999) Vol. 40, No. 3, pp. 809-813. print.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 5 May 1999
Last Updated on STN: 5 May 1999

AB Purpose. **Retinal** neovascularization is one of the leading causes of blindness. A crucial event in this process is the remodeling and penetration of the capillary basement membrane by migrating endothelial cells. This process requires proteolysis of basement membrane components by a variety of proteinases. The objective of the present study was to determine the expression of proteinases in human **retinal** tissues showing active neovascularization. Methods. Epiretinal neovascular membranes surgically removed from patients with proliferative diabetic retinopathy were analyzed by zymography, and the types and amounts of proteinases present in the tissues were determined. Retinas from nondiabetic donor eyes served as control specimens. Results. Both the high- (54 kDa) and low- (33 kDa) molecular-weight forms of urokinase were present at significantly higher levels in neovascular membranes than in normal retinas. The pro forms of the matrix metalloproteinases (MMP) MMP-2 and MMP-9 were significantly elevated in the neovascular membranes in comparison with levels in normal retinas. In addition, the active forms of these enzymes were present in the membranes, whereas there was no detectable level of the active forms in normal retinas. Conclusions. Human diabetic neovascular membranes contain high levels of urokinase and MMP. The increased activity of proteinases in the final common pathway of **retinal** neovascularization indicates that inhibition of these enzymes may be a useful therapeutic target as an alternative approach in the management of proliferative retinopathies.

L15 ANSWER 26 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1999:281203 BIOSIS
DOCUMENT NUMBER: PREV199900281203
TITLE: Endoscopic guided hand-held cannulation of the **retinal veins** in vivo.
AUTHOR(S): **Hamza, H. S.** [Reprint author]; **Humayun, M. S.** [Reprint author]; **Jensen, P. S.** [Reprint author]; Shelly, T. [Reprint author]; Shoukas, A.; de Juan, E., Jr. [Reprint author]
CORPORATE SOURCE: Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD, USA
SOURCE: IOVS, (March 15, 1999) Vol. 40, No. 4, pp. S768. print.
Meeting Info.: Annual Meeting of the Association for

Research in Vision and Ophthalmology. Fort Lauderdale, Florida, USA. May 9-14, 1999. Association for Research in Vision and Ophthalmology.

DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 28 Jul 1999
Last Updated on STN: 28 Jul 1999

L15 ANSWER 27 OF 38 MEDLINE on STN DUPLICATE 5

ACCESSION NUMBER: 1998079949 MEDLINE

DOCUMENT NUMBER: PubMed ID: 9418726

TITLE: The effect of acute experimental **retinal vein** occlusion on cat **retinal vein** pressures.

AUTHOR: Attariwala R; Jensen P S; Glucksberg M R

CORPORATE SOURCE: Biomedical Engineering Department, Northwestern University, Evanston, Illinois 60201-3107, USA.

CONTRACT NUMBER: EY09714 (NEI)

SOURCE: Investigative ophthalmology & visual science, (1997 Dec)
Vol. 38, No. 13, pp. 2742-9.

Journal code: 7703701. ISSN: 0146-0404.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199801

ENTRY DATE: Entered STN: 19980129

Last Updated on STN: 19980129

Entered Medline: 19980112

AB PURPOSE: **Retinal** ischemic damage associated with **retinal vein** occlusion is exacerbated by fluid extravasation and hemorrhage, which may be caused by increased permeability, elevated intravascular pressure, or both. Direct measurement of the **retinal vein** pressure in the cat after acute experimental **retinal vein** occlusion may define the role of intravascular pressures in fluid extravasation associated with this condition. METHODS: Intravenous **retinal** pressure measurements were obtained using a micropipette connected to a servonull device and positioned by a **robot** micromanipulator, while a major **retinal vein** near the optic disc was occluded by argon laser radiation delivered through an optical fiber positioned by a manual micromanipulator. After occlusion, **retinal vein** pressures were measured on both sides of the occlusion site at a controlled intraocular pressure of 20 mm Hg. RESULTS: Upstream of the occlusion site, the **retinal vein** pressures were not greatly elevated, although they were significantly different from controls. Downstream **vein** pressures were significantly lower than controls, but **vascular** collapse near the optic nerve was not observed. CONCLUSIONS: In **retinal vein** occlusion, venous pressures in a segmental **retinal** circulatory bed are not substantially elevated, thus implying the presence of a pressure-release mechanism and implicating **vascular** damage for the increased transvascular fluid flux. The lack of **vascular** collapse downstream of the occlusion site suggests collateral communication before a large intraocular pressure-dependent resistance segment that lies between the intraocular and extraocular vessels.

L15 ANSWER 28 OF 38 MEDLINE on STN DUPLICATE 6

ACCESSION NUMBER: 1998071118 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 9407227
 TITLE: Toward **robot**-assisted **vascular** microsurgery in the retina.
 AUTHOR: **Jensen P S**; Grace K W; Attariwala R; Colgate J E; Glucksberg M R
 CORPORATE SOURCE: Department of Biomedical Engineering, Northwestern University, Evanston, IL 60208, USA.
 CONTRACT NUMBER: EY09714 (NEI)
 SOURCE: Graefe's archive for clinical and experimental ophthalmology = Albrecht von Graefes Archiv fur klinische und experimentelle Ophthalmologie, (1997 Nov) Vol. 235, No. 11, pp. 696-701.
 Journal code: 8205248. ISSN: 0721-832X.
 PUB. COUNTRY: GERMANY: Germany, Federal Republic of
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 199801
 ENTRY DATE: Entered STN: 19980206
 Last Updated on STN: 19980206
 Entered Medline: 19980123

AB BACKGROUND: Experimental protocol in our laboratory routinely requires the precise placement of instruments at, or near, the retina. Although manipulators for placing an instrument within the eye presently exist, none of the designs were satisfactory due to limitations on size, accuracy and operability. To overcome these limitations, we have developed a novel six degree of freedom manipulator designed specifically for **retinal** microsurgery. METHODS: The manipulator is parallel in structure and provides submicrometer positioning of an instrument within the constrained environment of the eye. The position of an instrument attached to the manipulator is commanded by the operator using a hand-held trackball. A computer controller interprets the trackball input and moves the manipulator in an intuitive manner according to mathematically constrained modes of operation. RESULTS: Over 50 **retinal** vessels in the live, anesthetized cat have been successfully cannulated for pressure measurement and drug injection using the described manipulator and micropuncture techniques. The targeted vessels ranged in internal diameter from 20 to 130 microns. CONCLUSION: This device has applications in microsurgery where tremor and fatigue limit the performance of an unaided hand and where mechanically constrained manipulators are inappropriate due to size and operative constraints.

L15 ANSWER 29 OF 38 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1997:155572 SCISEARCH
 THE GENUINE ARTICLE: WH563
 TITLE: Activation of protein tyrosine phosphorylation after **retinal** branch **vein** occlusion in cats
 AUTHOR: Hayashi A (Reprint); Imai K; Kim H C; **deJuan E**
 CORPORATE SOURCE: JOHNS HOPKINS UNIV, SCH MED, WILMER OPHTHALMOL INST, BALTIMORE, MD 21287
 COUNTRY OF AUTHOR: USA
 SOURCE: INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE, (FEB 1997) Vol. 38, No. 2, pp. 372-380.
 ISSN: 0146-0404.
 PUBLISHER: LIPPINCOTT-RAVEN PUBL, 227 EAST WASHINGTON SQ, PHILADELPHIA, PA 19106.
 DOCUMENT TYPE: Article; Journal

FILE SEGMENT: LIFE
 LANGUAGE: English
 REFERENCE COUNT: 40
 ENTRY DATE: Entered STN: 1997
 Last Updated on STN: 1997

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Purpose. The authors examine the effect of **retinal** branch **vein** occlusion (BVO), a common **retinal** **vascular** disorder, on protein tyrosine phosphorylation, production of angiogenic growth factors, and activation of signal proteins in the tyrosine kinase pathways in the retina.

Methods. **Retinal** branch **vein** occlusion was induced in cat retina by coagulation of **retinal** **veins** with diathermy. At 2 days, 1, 3, and 6 weeks after induction of BVO, the retina was divided into three parts: a part within the distribution of the occluded **vein** (BVO[IN]) or a part outside the distribution of the occluded **vein** (BVO[OUT]). Each part of the retina was prepared for Western blot analysis of tyrosine-phosphorylated proteins, **vascular** endothelial growth factor (VEGF), basic fibroblast growth factor (bFGF), and four signal proteins in the tyrosine kinase pathways, which were phospholipase C gamma (PLC gamma), GSrc, SH2-containing protein (SHC), and mitogen-activated protein kinase (MAPK).

Results. Overall, tyrosine-phosphorylated proteins were increased after BVO, especially in BVO(IN) at 2 days and 1 week. The VEGF and bFGF also were increased in BVO(IN) at 1 week and 2 days, respectively. The PLC gamma and MAPK were activated at these time points. The CSrf and SHC were not activated in the retina after BVO.

Conclusions. The BVO increased overall protein tyrosine phosphorylation in the cat retina in association with increase of angiogenic growth factors (VEGF and bFGF) and activation of two signal proteins (PLC gamma and MAPK) in the tyrosine kinase pathways. These results suggest that the protein tyrosine phosphorylation may in part play an important role in mitogenesis of **vascular** endothelial cells and other **retinal** responses after BVO.

L15 ANSWER 30 OF 38 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1997:285438 BIOSIS
 DOCUMENT NUMBER: PREV199799584641
 TITLE: Robotic micromanipulator for ophthalmic surgery.
 AUTHOR(S): Garcia, C. A.; Grace, K. W.; Glucksberg, M. R. [Reprint author]; **Jensen, P. S.**; Colgate, J. E. [Reprint author]
 CORPORATE SOURCE: Northwest. Univ., Evanston, IL 60201, USA
 SOURCE: Investigative Ophthalmology and Visual Science, (1997) Vol. 38, No. 4 PART 1-2, pp. S87.
 Meeting Info.: Annual Meeting of the Association for Research in Vision and Ophthalmology, Parts 1-2. Fort Lauderdale, Florida, USA. May 11-16, 1997.
 CODEN: IOVSDA. ISSN: 0146-0404.
 DOCUMENT TYPE: Conference; (Meeting)
 Conference; Abstract; (Meeting Abstract)
 Conference; (Meeting Poster)
 LANGUAGE: English
 ENTRY DATE: Entered STN: 3 Jul 1997
 Last Updated on STN: 3 Jul 1997

L15 ANSWER 31 OF 38 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1996:720449 SCISEARCH
 THE GENUINE ARTICLE: VK656
 TITLE: Increase of protein tyrosine phosphorylation in rat retina after ischemia-reperfusion injury
 AUTHOR: Hayashi A (Reprint); Koroma B M; Imai K; **deJuan E**
 CORPORATE SOURCE: JOHNS HOPKINS UNIV, SCH MED, WILMER OPHTHALMOL INST, BALTIMORE, MD 21287
 COUNTRY OF AUTHOR: USA
 SOURCE: INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE, (OCT 1996) Vol. 37, No. 11, pp. 2146-2156.
 ISSN: 0146-0404.
 PUBLISHER: LIPPINCOTT-RAVEN PUBL, 227 EAST WASHINGTON SQ, PHILADELPHIA, PA 19106.
 DOCUMENT TYPE: Article; Journal
 FILE SEGMENT: LIFE
 LANGUAGE: English
 REFERENCE COUNT: 43
 ENTRY DATE: Entered STN: 1996
 Last Updated on STN: 1996

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Purpose. This study was conducted to examine the effect of **retinal** ischemia-reperfusion injury on protein tyrosine phosphorylation, the production of angiogenic growth factors, and the activation of signal proteins in tyrosine kinase pathways.

Methods. Ischemia-reperfusion injury was induced in rats by compression of the optic nerve for 2 hours. The rats were killed, and the retinas were collected at 0, 1, 6, 24, 48, 96, or 168 hours of reperfusion. Tyrosine phosphorylation of proteins in the retina was examined by Western blot analysis and immunohistochemistry. Angiogenic growth factors and their receptors, such as basic fibroblast growth factor (bFGF) and Flg, **vascular** endothelial growth factor (VEGF) and Flk-1, platelet-derived growth factor (PDGF)-B chain and PDGF-beta receptor, and five intracellular signal proteins (phosphatidylinositol 3-kinase [PI3K], phospholipase C gamma [PLC gamma], C-Src, SHC, and mitogen-activated protein kinase [MAPK]) were examined by Western blot analysis.

Results. Protein tyrosine phosphorylation increased after ischemia-reperfusion injury, reaching a peak at 48 hours of reperfusion. Increased staining of tyrosine-phosphorylated proteins in the inner retina were evident on immunohistochemical examination. The amount of bFGF decreased after injury, but the amounts of VEGF and PDGF-B chain increased. Tyrosine phosphorylation of PLC gamma, SHC, and MAPK was increased at 48 hours of reperfusion, and tyrosine phosphorylation of PDGF-beta receptor and PI3K was increased at 168 hours of reperfusion.

Conclusions. Ischemia-reperfusion injury in the rat retina leads to activation of the tyrosine kinase pathway, increasing the amounts of angiogenic growth factors. The resultant activation of signal proteins PLC gamma, SHC, MAPK, PI3K, and PDGF-beta receptor may play an important role in ischemia-induced **retinal** changes such as cell proliferation.

L15 ANSWER 32 OF 38 MEDLINE on STN
 ACCESSION NUMBER: 94205111 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 8154044
 TITLE: The absence of constitutive and induced expression of critical cell-adhesion molecules on human cardiac myocytes. Its role in transplant rejection.
 AUTHOR: Ansari A A; Sundstrom J B; Runnels H; **Jensen P**; Kanter K; Mayne A; Herskowitz A

CORPORATE SOURCE: Department of Pathology and Laboratory Medicine, Emory University School of Medicine, Atlanta, GA 30322.
 CONTRACT NUMBER: 1R01-HL44203-02 (NHLBI)
 1R01-HL47272-04 (NHLBI)
 SOURCE: Transplantation, (1994 Mar 27) Vol. 57, No. 6, pp. 942-9.
 Journal code: 0132144. ISSN: 0041-1337.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 199405
 ENTRY DATE: Entered STN: 19940523
 Last Updated on STN: 19940523
 Entered Medline: 19940506

AB Fetal human cardiac myocytes (FHCM) and a cell line derived from FHCM, termed W1, constitutively express low levels of MHC class I antigens and significant levels of ICAM-1 (CD54), and LFA-3 (CD58) but do not express LFA-1 alpha (CD11a), LFA-1 beta (CD18), GMP-140 (CD62), BB1-B7, VCAM-1, and ELAM-1. In vitro incubation of FHCM or the W-1 cell line for varying periods with varying concentrations of IFN-gamma, TNF-alpha, Poly IC, LPS, IL-alpha, IL-1 beta, PMA, PDBu, and supernatant fluids from Con A-activated PBMC or allogeneic MLR cultures failed to induce cell adhesion molecules (CAMs) or costimulatory molecules that are not constitutively expressed on these cells except for MHC class II antigens. In addition, IFN-gamma, Con A, and MLR supernatant fluids (in order of biological activity) not only induced MHC class II antigens but also markedly increased the mean density of expression per cell of MHC class I and ICAM-1. Analysis of the stability of MHC class I/II molecules using agents like brefeldin-A and Western blot analysis of MHC class II molecules suggest that these ligands are very stably expressed on myocytes. Our previous studies have documented the failure of MHC-expressing FHCM to induce an alloproliferative response. The results of the present studies show that this failure is not secondary to the absence of ICAM-1 or LFA-3 or the presence of unstable MHC molecules but is most likely due to the absence of other CAMs/costimulatory molecules that are critically required for inducing allogeneic activation.

L15 ANSWER 33 OF 38 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1994:91632 SCISEARCH
 THE GENUINE ARTICLE: MR521
 TITLE: LOCALIZATION AND QUANTITATION OF BLOOD-RETINAL
 BARRIER BREAKDOWN IN EXPERIMENTAL PROLIFERATIVE
 VITREORETINOPATHY
 AUTHOR: ANDO N (Reprint); SEN H A; BERKOWITZ B A; WILSON C A;
 DEJUAN E
 CORPORATE SOURCE: DUKE UNIV, CTR EYE, DURHAM, NC 27706; NIEHS, RES TRIANGLE
 PK, NC 27709
 COUNTRY OF AUTHOR: USA
 SOURCE: ARCHIVES OF OPHTHALMOLOGY, (JAN 1994) Vol. 112, No. 1, pp.
 117-122.
 ISSN: 0003-9950.
 PUBLISHER: AMER MEDICAL ASSOC, 515 N STATE ST, CHICAGO, IL 60610.
 DOCUMENT TYPE: Article; Journal
 FILE SEGMENT: LIFE; CLIN
 LANGUAGE: English
 REFERENCE COUNT: 36
 ENTRY DATE: Entered STN: 1994
 Last Updated on STN: 1994

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Objective: To determine the contribution of the breakdown of the blood-**retinal** barrier (BRB) as measured with magnetic resonance imaging in the development of **retinal** detachment in an experimental model of proliferative vitreoretinopathy.

Methods: Contrast-enhanced magnetic resonance imaging was used to evaluate BRB breakdown in an intravitreal cell-injection model of proliferative vitreoretinopathy. Intravitreal injection of 2.5×10^5 homologous dermal fibroblasts produced specific disruption of the inner, or **vascular**, BRB.

Results: Breakdown of the BRB was greatest in the first 3 days after injection, confirming previous work using fluorescein-based methods. Injection of 1 mg of intravitreal triamcinolone acetonide at the time of cell injection significantly reduced both BRB breakdown and the incidence of eventual traction **retinal** detachment. Eyes that did develop detachment had significantly greater leakage prior to its development than those that did not, regardless of steroid treatment.

Conclusions: Quantitation and definitive localization of BRB leakage with magnetic resonance imaging provides a better understanding of the relationship between BRB compromise and the development of **retinal** detachment in this frequently used model.

L15 ANSWER 34 OF 38 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1992:732951 SCISEARCH

THE GENUINE ARTICLE: KC415

TITLE: INVIVO IMAGING OF BREAKDOWN OF THE INNER AND OUTER BLOOD-**RETINAL** BARRIERS

AUTHOR: SEN H A; BERKOWITZ B A; ANDO N; **DEJUAN E (Reprint)**

CORPORATE SOURCE: WILMER OPHTHALMOL INST, 600 N WOLFE ST, MAUMENEE 721, BALTIMORE, MD 21287 (Reprint); DUKE UNIV, CTR EYE, DURHAM, NC 27706; NIEHS, RES TRIANGLE PK, NC 27709

COUNTRY OF AUTHOR: USA

SOURCE: INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE, (DEC 1992) Vol. 33, No. 13, pp. 3507-3512. ISSN: 0146-0404.

PUBLISHER: LIPPINCOTT-RAVEN PUBL, 227 EAST WASHINGTON SQ, PHILADELPHIA, PA 19106.

DOCUMENT TYPE: Article; Journal

FILE SEGMENT: LIFE

LANGUAGE: English

REFERENCE COUNT: 22

ENTRY DATE: Entered STN: 1994

Last Updated on STN: 1994

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Real-time contrast-enhanced magnetic resonance imaging (MRI) was used to distinguish between experimentally induced breakdown of the **vascular** (inner) and **retinal** pigment epithelial (RPE; outer) blood-**retinal** barrier (BRB) in vivo. Pigmented rabbits were treated with intravenous sodium iodate 30 mg/kg, (a specific RPE cell poison), intravitreal N-ethylcarboxamidoadenosine (NECA) 10^{-3} mol/l (which specifically disrupts the **vascular** BRB), or **retinal** diode laser photocoagulation. Coronal T1-weighted proton images were acquired in a timed sequence after intravenous injection of gadolinium diethylenetriaminepentaacetic acid (Gd-DTPA). Images were analyzed to localize leakage of Gd-DTPA and determine the permeability surface area product normalized per unit area (PS'). The pattern of enhancement observed in eyes treated with sodium iodate differed clearly from that in eyes treated with NECA. PS' values were significantly higher

in eyes treated with sodium iodate than with NECA. Simultaneous leakage from the outer and inner BRB in eyes treated with dense **retinal** laser photocoagulation could be localized and quantitated independently.

L15 ANSWER 35 OF 38 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1992:732950 SCISEARCH
 THE GENUINE ARTICLE: KC415
 TITLE: ACCURATE AND PRECISE MEASUREMENT OF BLOOD-**RETINAL** BARRIER BREAKDOWN USING DYNAMIC GD-DTPA MRI
 AUTHOR: BERKOWITZ B A (Reprint); TOFTS P S; SEN H A; ANDO N; **DEJUAN E**
 CORPORATE SOURCE: UNIV TEXAS, SW MED CTR, DEPT OPHTHALMOL, DALLAS, TX 75235 (Reprint); DUKE UNIV, CTR EYE, DURHAM, NC 27706; NATL HOSP, INST NEUROL, LONDON WC1N 3BG, ENGLAND
 COUNTRY OF AUTHOR: USA; ENGLAND
 SOURCE: INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE, (DEC 1992) Vol. 33, No. 13, pp. 3500-3506.
 ISSN: 0146-0404.
 PUBLISHER: LIPPINCOTT-RAVEN PUBL, 227 EAST WASHINGTON SQ, PHILADELPHIA, PA 19106.
 DOCUMENT TYPE: Article; Journal
 FILE SEGMENT: LIFE
 LANGUAGE: English
 REFERENCE COUNT: 18
 ENTRY DATE: Entered STN: 1994
 Last Updated on STN: 1994

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Dynamic T1-weighted magnetic resonance imaging (MRI) after the injection of Gd-DTPA is a promising method for investigating breakdown of the blood-**retinal** barrier (BRB). Previously, the authors demonstrated that in a T1-weighted image, the initial rate of change in the vitreous water MRI signal as gadolinium diethylenetriaminepentaacetic acid (Gd-DTPA) enters the vitreous space strongly correlated with the extent of BRB breakdown. there, a practical approach to measuring a more relevant physiologic parameter is presented: the permeability surface area product (PS). The theory is a development of earlier work used in investigating the breakdown of the blood-brain barrier. The accuracy and precision of this approach was investigated in rabbits pretreated with sodium iodate (30 mg/kg intravenously). The MRI-derived PS normalized to the area of leaky retina ($5.65 \pm 0.25 \times 10^{-4}$ cm/min, mean \pm standard error of the mean; $n = 6$) was compared to a similarly normalized PS calculated using a classical physiologic method ($4.12 \pm 0.73 \times 10^{-4}$ cm/min; $n = 6$). Good agreement between the two methods was found ($P = 0.09$). This result demonstrates that the MRI-derived PS is an accurate and precise measure of BRB breakdown under these conditions. The mathematical model of Gd-DTPA distribution in vivo also is validated. Based on these results, several potential sources of error are discussed, including the effect of back-flow of Gd-DTPA from the vitreous space to the plasma, the underlying **vascular** patency, and MRI slice selection.

L15 ANSWER 36 OF 38 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 1991:389226 SCISEARCH
 THE GENUINE ARTICLE: FV414
 TITLE: ALTERED DISTRIBUTION OF BASIC FIBROBLAST GROWTH-FACTOR IN DIABETIC-RETINOPATHY
 AUTHOR: HANNEKEN A (Reprint); **DEJUAN E**; LUTTY G A; FOX G

M; SCHIFFER S; HJELMELAND L M
 CORPORATE SOURCE: WHITTIER INST DIABET & ENDOCRINOL, DEPT MOLEC & CELLULAR
 GROWTH, 9894 GENESEE AVE, LA JOLLA, CA 92037 (Reprint);
 DUKE UNIV, CTR EYE, DEPT OPHTHALMOL, DURHAM, NC 27706;
 JOHNS HOPKINS UNIV HOSP, WILMER OPHTHALMOL INST,
 BALTIMORE, MD 21205; AMGEN INC, THOUSAND OAKS, CA; UNIV
 CALIF SACRAMENTO, MED CTR, DEPT OPHTHALMOL, SACRAMENTO, CA
 COUNTRY OF AUTHOR: USA
 SOURCE: ARCHIVES OF OPHTHALMOLOGY, (JUL 1991) Vol. 109, No. 7, pp.
 1005-1011.
 ISSN: 0003-9950.
 PUBLISHER: AMER MEDICAL ASSOC, 515 N STATE ST, CHICAGO, IL 60610.
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ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Basic fibroblast growth factor (FGF) is a potent endothelial cell
 mitogen that has been proposed to play a role in proliferative diabetic
 retinopathy and other neovascular processes. Our understanding of the in
 vivo role of basic FGF in the pathogenesis of these disorders is limited.
 We studied the immunolocalization of basic FGF in 16 clinical cases of
 diabetic retinopathy to determine whether the normal **retinal**
 distribution of basic FGF changed during the development of diabetic
 retinopathy and correlated with the onset of **retinal**
 neovascularization. By using monoclonal and affinity-purified polyclonal
 antibodies against basic FGF and heparan sulfate proteoglycan (HSPG), we
 found that basic FGF colocalized with HSPG to **vascular** basement
 membranes. As the basement membranes thickened during the progression of
 diabetic retinopathy, the intraretinal stores of immunoreactive basic FGF
 and HSPG expanded. With the development of neovascularization, the
 colocalization of basic FGF and HSPG changed; HSPG localized to basement
 membranes, while basic FGF localized intracellularly, with only minimal
 basement membrane immunoreactivity. Incubations of the neovascular fronds
 with exogenous basic FGF demonstrated multiple HSPG glycosaminoglycan-
 binding sites for basic FGF, indicating that basic FGF had not been
 released from the matrix of neovascular fronds by heparitanase digestion.

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 THE GENUINE ARTICLE: FF656
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 AUTHOR: ENYEDI L B (Reprint); **DEJUAN E**; GAITAN A
 CORPORATE SOURCE: DUKE UNIV, CTR EYE, DEPT OPHTHALMOL, BOX 3802, DURHAM, NC
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ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB We studied the clinicopathologic and ultrastructural features of a full-term infant with Norrie's disease. The infant had bilateral retrolental fibrous **vascular** masses and **retinal** detachment with no other apparent physical abnormalities and no family history of ocular defects. A vitrectomy and a membrane peeling were attempted, and specimens of the retina, the retrolental membrane, and a vascularized epiretinal peripheral mass were examined by light and electron microscopy. The retrolental membrane was composed of layered collagenous tissue and contained structures resembling blood vessels. Inner and outer neuroblastic layers were identified in the **retinal** tissue, but no vessels were present. In the epiretinal mass, portions of retina and cortical vitreous were seen along with primitive **vascular** structures. The histologic appearance of these specimens suggests that the major pathologic event of Norrie's disease occurs in the retina in the third or fourth gestational month. We believe the subsequent ocular abnormalities found in this patient were secondary to this early **retinal** malformation and did not represent a progressive ocular disorder.

L15 ANSWER 38 OF 38 MEDLINE on STN DUPLICATE 7
 ACCESSION NUMBER: 79094605 MEDLINE
 DOCUMENT NUMBER: PubMed ID: 733137
 TITLE: Regulation of amniotic fluid volume and composition in the ovine fetus.
 AUTHOR: Wintour E M; **Barnes A**; Brown E H; Hardy K J; Horacek I; McDougall J G; Scoggins B A
 SOURCE: Obstetrics and gynecology, (1978 Dec) Vol. 52, No. 6, pp. 689-93.
 Journal code: 0401101. ISSN: 0029-7844.
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AB To determine the role of fetal swallowing in the control of amniotic fluid volume and composition and fetomaternal sodium transport, 4 ovine fetuses of 101--129 days' gestation had their esophagi surgically occluded. Amniotic and fetal **vascular cannulas** were implanted at the same time in these fetuses and in four intact controls. There was no difference between the amniotic sodium or potassium of these two groups over the next 3 weeks, at which time cesarean section was performed and the volume of amniotic fluid measured. Hydramnios did not result from esophageal atresia. Twenty-four hours after injection of ²⁴Na into the amniotic fluid, the percentages of the dose in the fetal/maternal compartment were similar in intact and esophagus-ligated fetuses.